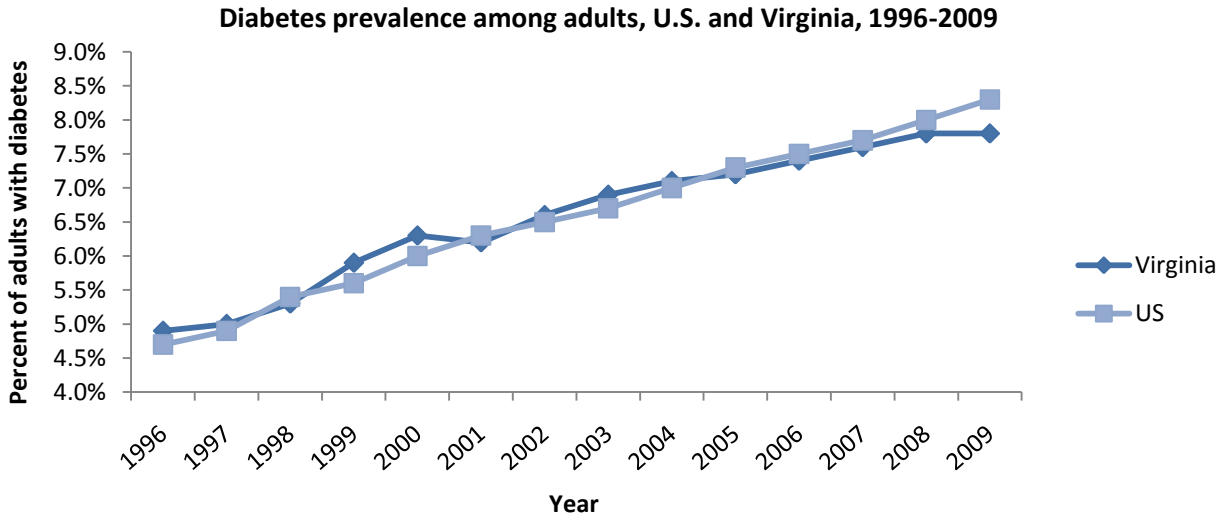
Prevalence of Diabetes

Prevalence refers to the total number of people with an existing condition or disease, including new diagnoses, at a point in time. All rates are for adults in 2010 except where otherwise noted.

- 531,000 adults in Virginia (8.7%) had diabetes that was diagnosed by a health professional.[1]
- The Centers for Disease Control and Prevention (CDC) estimate that in the U.S., diabetes prevalence among adults in 2010 was 8.3%.
- Cowie and colleagues estimate that an additional 5.1% of all adults have *undiagnosed* diabetes.[2] Applied to Virginia in 2010, an additional 312,568 adults had undiagnosed diabetes.
- The CDC estimates that gestational diabetes affects 2-10% of pregnant women in the US.[3] The 2007-2008 PRAMS data indicated that 10.9 percent of pregnant women in Virginia had gestational diabetes.[4] In Virginia in 2009, an estimated 11,000 pregnant women had gestational diabetes.
- The CDC estimates that nationally, the prevalence of diabetes among youth under age 20 in 2010 was 0.26%. Type 1 diabetes was diagnosed more frequently among white children/adolescents than among racial/ethnic minorities. Type 2 diabetes, although still rare, is being diagnosed more frequently in children and adolescents, particularly among American Indians, African Americans, and Latinos.[3]
- By far the largest group at risk for diabetes are people who have somewhat elevated blood glucose levels (impaired fasting glucose or impaired glucose tolerance). This condition is now termed **prediabetes**, because of the increased risk of developing diabetes.
- The CDC estimates that 35% of adults age 20 and older, and 50% of adults age 65 and older, have prediabetes. Applying this estimate to Virginia in 2010, 2.1 million adults 18 and older, including 480,000 adults age 65 and older, had prediabetes.[3]



Source: Centers for Disease Control and Prevention Diabetes Data and Trends, accessed 5/2011.
Data notes: Percents are weighted based on demographic and household characteristics and age-adjusted.

[1] 2010 Behavioral Risk Factor Surveillance System (BRFSS).
[2] Cowie C, Rust K, Geiss L, et al. Full accounting of diabetes and pre-diabetes in the U.S. Population in 1988-1994 and 2005-2006. *Diabetes Care*. February 2009;32(2):287-294.
[3] Centers for Disease Control and Prevention (CDC) National Diabetes Fact Sheet, 2011.
[4] Virginia Pregnancy Risk Assessment Monitoring System (PRAMS).

Updated by the Virginia Department of Health, Office of Family Health Services, Diabetes Prevention and Control Project on 7/2011. For more information, visit http://www.vahealth.org/cdpc/diabetes/

Estimated diabetes prevalence in Virginia, 2010

Population	Prevalence	Estimated Number of Virginians with Diabetes	Source
Diagnosed	State adult prevalence = 8.7%.[5]	531,366	Virginia BRFSS, 2010
Undiagnosed	5.1% of adults in the US have *undiagnosed* diabetes.[6]	312,568	Cowie et al., 2009
Gestational	10.9% of pregnancies in VA are affected by GDM.[7]	11,443	Virginia PRAMS report, 2007-2008
Children and Adolescents	0.26% of all people in the U.S. who are under the age of 20 have diabetes.[8]	4,868	CDC National Diabetes Fact Sheet, 2011
Prediabetes[9]	35% of adults age 20 and older have prediabetes.[10]	2,145,074	CDC National Diabetes Fact Sheet, 2011
Total		**3,005,319**	

Diabetes prevalence, Virginia, 2001-2010

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
6.0%	6.2%	7.2%	7.0%	6.9%	7.4%	8.0%	8.1%	8.2%	8.7%

Source: Virginia BRFSS, 2010.
Data note: Percents are weighted based on demographic and household characteristics.

[5] Virginia 2010 population for persons 18 years and older= 6,128,784. 8.67% of 6,128,784 = 531,366.
[6] Virginia 2010 population for persons 18 years and older= 6,128,784. 5.1% of 6,128,784 = 312,568.
[7] PRAMS 2007-2009. In 2009, there were 104,979 live births among Virginians (Virginia Department of Health division of Health Statistics). 10.9% of 104,979 = 11,443.
[8] Virginia 2010 population under the age of 18 = 1,872,240; 0.26 percent of 1,872,240= 4,868. There is a two-year difference between prevalence estimates using VA BRFSS data of adults ages 18+ and CDC data for children under age 20, due to the fact that Virginia does not have state-level NHANES estimates of adult prevalence for ages 20 and over.
[9] Prediabetes is defined as having impaired glucose tolerance or impaired fasting glucose or both.
[10] Virginia 2010 population over 18 years= 6,128,784. 35% of 6,128,784 = 2,145,074.

- Diabetes prevalence increases with age. In Virginia in 2010, more than 1 in 5 adults over age 65 (21.5%) had *diagnosed* diabetes. The CDC estimates that nationally, 27% of adults over 65 have diagnosed or undiagnosed diabetes.

Prevalence of diabetes by age group, Virginia, 2010

Age group	18-24	25-34	35-44	45-54	55-64	65+
Diabetes prevalence	<1%	1.0%	4.9%	10.0%	13.5%	21.5%

Source: Virginia BRFSS, 2010.
Data note: Percents are weighted based on demographic and household characteristics.

- In 2010, females were less likely than males to have diabetes overall. Non-Hispanic (NH) black women and NH white women were less likely than NH black or white men to have diagnosed diabetes. However, Hispanic/Latina women and women of "other" race/ethnicity were **more** likely to have diagnosed diabetes than men of the same race/ethnicity.

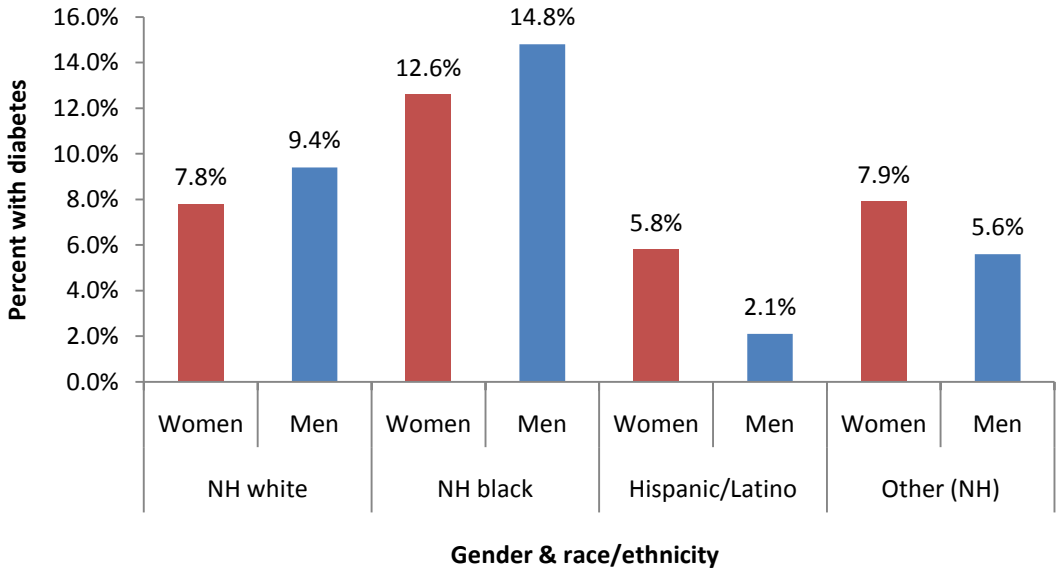
- In 2010, diabetes prevalence was at least 1.5 times as high among NH black men and women as in any other racial or ethnic group.

Prevalence of diabetes by race/ethnicity and gender, Virginia, 2010

	Diabetes prevalence
Gender	
Women	8.3%
Men	9.0%
Race/ethnicity	
Black, NH	13.5%
White, NH	8.5%
Other	5.6%

Source: Virginia BRFSS, 2010. Data notes: Percents are weighted based on demographic and household characteristics. "Other" includes Hispanic/Latino, Asian, Native American, Pacific Islander, and multiple races. Counts were too low in each group to report individual estimates.

Diabetes prevalence among adults by gender and race/ethnicity , Virginia, 2010



Source: Virginia BRFSS, 2010.
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- In 2010, persons with lower incomes were more likely to have diabetes. As income increased, prevalence of diabetes decreased.

Prevalence of diabetes in Virginia by income level, 2010

Income	Diabetes prevalence
Less than $15,000	18.4%
$15,000 - 24,999	15.4%
$25,000 - 34,999	9.0%
$35,000 - 49,999	10.1%
$50,000+	6.0%

Source: Virginia Behavioral Risk Factor Surveillance System, 2010.
Data note: Percents are weighted based on demographic and household characteristics.

- Education was similarly associated with diabetes prevalence. As highest level of education completed increased, prevalence of diabetes decreased.

Prevalence of diabetes in Virginia by education level, 2010

Education Level	Diabetes prevalence
Less than High School	15.0%
High School or GED	9.8%
Some Post-High School	7.8%
College Graduate	7.0%

Source: Virginia Behavioral Risk Factor Surveillance System, 2010.
Data note: Percents are weighted based on demographic and household characteristics.

Diabetes Prevalence by VA Local Health District

Diabetes prevalence also varies by Virginia local health district. The five health districts with the highest prevalence of diabetes in 2005-2009 were:

- Cumberland Plateau (14.8%)
- Southside (13.1%)
- Crater (12.7%)
- Lenowisco (11.7%)
- Eastern Shore (11.4%)

Prevalence of diabetes among adults by Virginia Health District, 2005-2009

Virginia Health District	Diabetes Prevalence
Alexandria	4.3%
Alleghany	8.2%
Arlington	4.4%
Central Shenandoah	6.9%
Central Virginia	10.3%
Chesapeake	8.9%
Chesterfield	7.3%
Crater	12.7%
Cumberland Plateau	14.8%
Eastern Shore	11.4%
Fairfax	4.0%
Hampton	8.2%
Chickahominy (formerly Hanover)	6.7%
Henrico	4.5%
Lenowisco	11.7%
Lord Fairfax	10.1%
Loudon	3.4%
Mount Rogers	11.3%
New River	10.1%
Norfolk	10.5%
Peninsula	6.8%
Piedmont	10.3%
Pittsylvania/Danville	11.4%
Portsmouth	9.3%
Prince William	6.9%
Rappahannock	6.6%
Rappahannock/Rapidan	8.6%
Richmond	10.9%
Roanoke	9.5%
Southside	13.1%
Thomas Jefferson	7.1%
Three Rivers	8.5%
Virginia Beach	6.9%
West Piedmont	10.5%
Western Tidewater	9.3%
State Average:	**7.7%**

Source: Virginia Behavioral Risk Factor Surveillance System (BRFSS), 2005-2009. Five years of data were used to improve estimate accuracy. Data note: Percents are weighted based on demographic and household characteristics.

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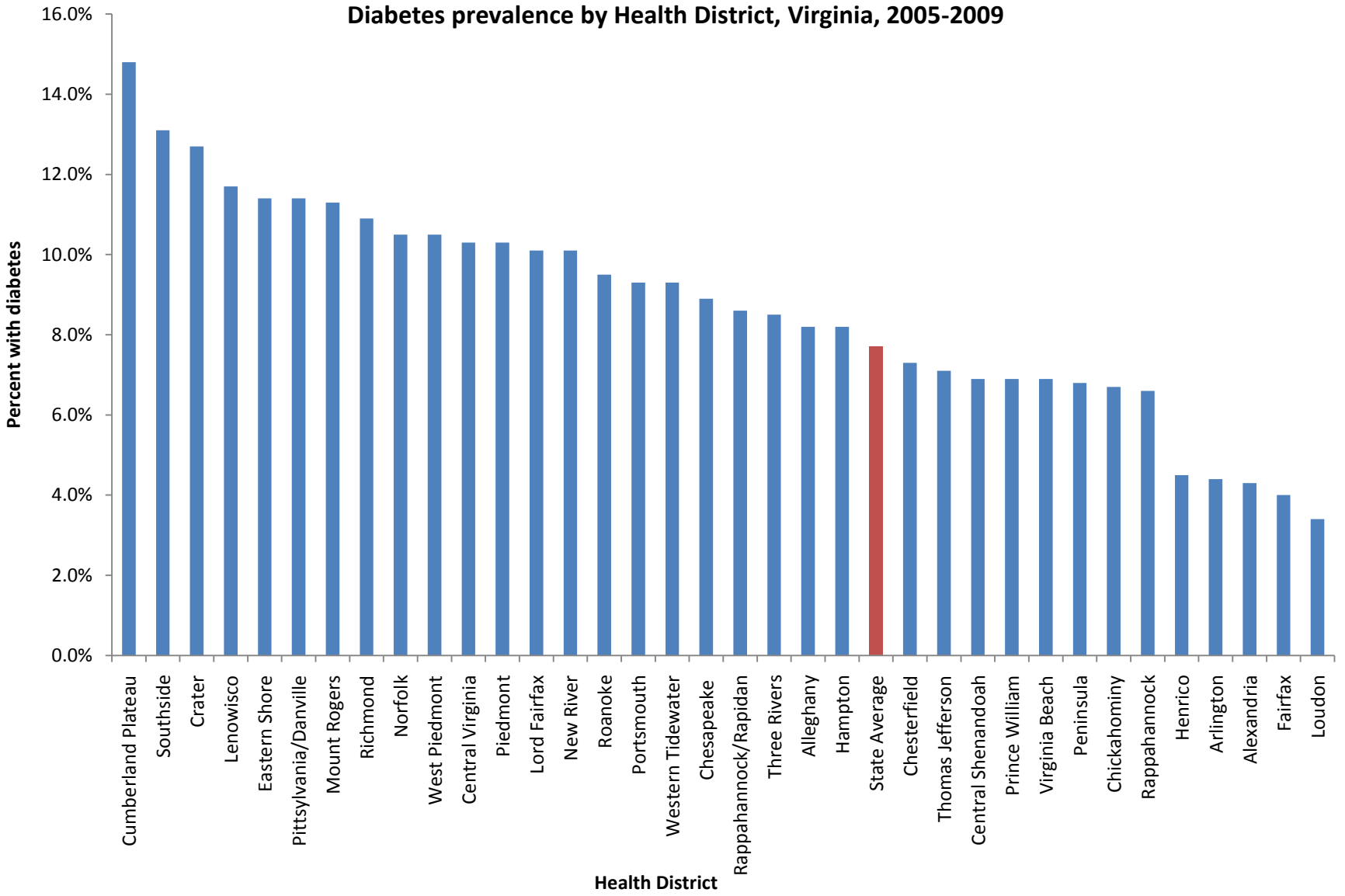

Source: Virginia BRFSS, 2005-2009. Five years of data were used to improve estimate accuracy.
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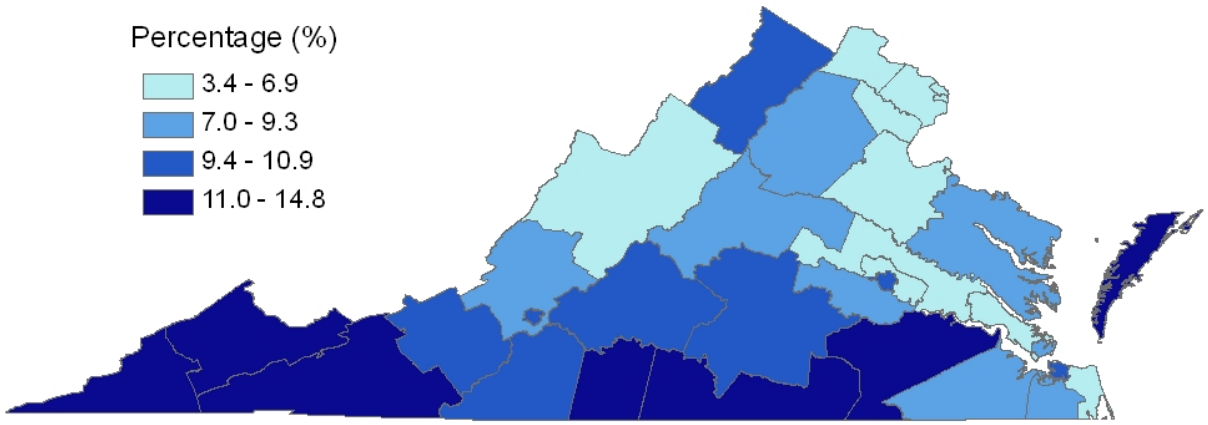
Prevalence of diabetes among adults by health district, Virginia, 2005-2009



Source: Virginia Department of Health, Office of Family Health Services, Virginia Behavioral Risk Factor Surveillance System. Based on 2005-2009 data combined. Refers to adults who report ever being told by a health care professional that they have diabetes (excludes gestational diabetes and pre-diabetes). Classification is by quartile.

Prevalence of diabetes by Virginia city and county, 2004-2008

The CDC now provides county-level synthetic estimates of diabetes prevalence. Estimates for 2004-2008 can be found at: http://apps.nccd.cdc.gov/DDT_STRS2/CountyPrevalenceData.aspx?StateId=51.

The five counties/cities with the highest diabetes prevalence in 2008 were:

- Petersburg City (13.2%)
- Charles City County (12.4%)
- Richmond City (12.2%)
- Halifax County 12.1%)
- Greensville County and Portsmouth City (11.9%)

The five counties/cities with the lowest diabetes prevalence in 2008 were:

- Fairfax County (7.5%)
- Loudoun County (7.7%)
- Arlington County (7.7%)
- Alexandria City (7.7%)
- Montgomery County (7.9%)